

FLINN SCIENTIFIC, INC.

Material Safety Data Sheet (MSDS)

MSDS #: 47.00

Revision Date: April 28, 2011

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Ammonia Gas

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

SECTION 2 — COMPOSITION, INFORMATION ON INGREDIENTS

Ammonia, gas

Synonym: Anhydrous ammonia

CAS#: 7664-41-7

SECTION 3 — HAZARDS IDENTIFICATION

Colorless gas. Pungent ammonia odor.

Moderately toxic by inhalation and ingestion. Severe irritant of eyes, respiratory tract, and skin.

Corrosive to eyes.

Can cause breathing problems, chest pain, coughing, and even suffocation. Can cause severe skin burns.

Moderate fire risk.

FLINN AT-A-GLANCE

Health-2

Flammability-1

Reactivity-0

Exposure-3

Storage-0

0 is low hazard, 3 is high hazard

SECTION 4 — FIRST AID MEASURES

Call a physician and seek medical attention for further treatment, observation, and support after first aid.

Inhalation: Remove to fresh air at once. If breathing has stopped, give artificial respiration immediately.

Eye or External: Immediately flush with fresh water for at least 15 minutes.

Internal: Do NOT induce vomiting. Rinse mouth. Give large quantities of water for dilution. Call a physician or poison control at once.

SECTION 5 — FIRE FIGHTING MEASURES

Moderate fire risk. Combustible gas.

UEL: 25% LEL: 15% Autoignition Temperature: 651 °C

Fire Fighting Instructions: Use a triclass, dry chemical fire extinguisher. Firefighters should wear PPE and SCBA with full facepiece operated in positive pressure mode.

NFPA CODE

H-3

F-1

R-0

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Close cylinder at once. Remove all ignition sources and ventilate room. If cylinder is leaking, evacuate the laboratory and call fire department with necessary breathing equipment.

SECTION 7 — HANDLING AND STORAGE

Store with the bottled gases in a secure area.

Use and dispense in a hood.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Avoid contact with eyes, skin, and clothing. Wear chemical splash goggles, chemical-resistant gloves, and chemical-resistant apron. Use ventilation to keep airborne concentrations below exposure limits. Always wear a NIOSH-approved respirator with proper cartridges or a positive-pressure, air-supplied respirator when handling this material in emergency situations (spill or fire).

Exposure guidelines: TWA 25 ppm, STEL 35 ppm (NIOSH, ACGIH).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Colorless gas with a pungent odor.

Solubility: Soluble in water, moderately soluble in alcohol.

Formula: NH₃

Formula weight: 17.04

Boiling point: -33.35 °C

Melting point: -77.7 °C

Specific gravity: Lighter than air.

Vapor density: 0.6

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers. Will react violently with all acids. Forms explosives compounds in contact with silver or mercury. Contact with halogens may cause spattering.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Toxic, corrosive.

Chronic effects: N.A.

Target organs: Respiratory system and eyes.

ORL-RAT LD₅₀: 350 mg/kgIHL-RAT LC₅₀: 2000 ppm/4HSKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply, before proceeding.

One option is to completely empty cylinder in one operating fume hood or outdoors. Avoid flames and sparks. Dispose of empty cylinder in trash, if non-refillable. Another option is to bubble the ammonia gas through water, then dispose of the resulting ammonium hydroxide solution using Flinn Suggested Disposal Method #10.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Ammonia, Anhydrous, Liquefied

Hazard class: 2.2 Nonflammable gas

UN number: UN1005

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (231-635-3). RCRA D002.

SECTION 16 — OTHER INFORMATION

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**Consult your copy of the *Flinn Science Catalog/Reference Manual*
for additional information about laboratory chemicals.**